

REMARKS

The Official Action mailed December 14, 2004, has been carefully studied. The claims in the application are now claims 1-5, 7-12 and 14; these claims recite novel and unobvious subject matter under §§102 and 103, and therefore should be allowed. Applicants thus respectfully request favorable reconsideration and allowance.

The objection to claim 5 has been resolved by the amendment presented above.

Amendments to claims

Claim 1 is amended to define an optical recording medium which records information with a writing light with a wavelength in the range of about 450 nm or shorter, the optical recording medium comprising a substrate and a recording layer provided on the substrate, with the recording layer comprising an organic dye compound having an absorption maximum at a wavelength longer than the wavelength of the writing light to absorb the laser at a level sufficient to record information in the recording layer.

Claim 8 has been similarly amended to define an optical recording method using a laser with an oscillation wavelength of 450 nm or shorter, and an organic dye compound

which has an absorption maximum with a wavelength shorter than 850 nm.

Claims 2-4 and 9-11 have been revised to recite the names of chemical compounds more accurately, support being found in applicants' specification at page 10, line 21 to page 11, line 10. Claims 5 and 12 have been revised based on example 2 at pages 37-38 of applicants' specification, and claims 6 and 13 have been canceled.

The Invention

Applicants believe that it had not been known to public at the time the present application was filed that information can be recorded in a recording layer comprising an organic dye compound which shows an absorption maximum at a wavelength longer than the oscillation wavelength of a laser, but which absorbs the laser at a level sufficient to record information in said recording layer using a laser with an oscillation wavelength of 450 nm or shorter. It is believed that the amended claim 1 provides new recording principle in an optical recording medium, and claim 1 is therefore new and non-obvious.

Because an organic dye compound of the revised claims has an absorption maximum at a wavelength longer than the wavelength of the writing light, specifying the wavelength

of the writing light as being no greater than about 450 nm is believed to be a substantial feature of the present invention.

As described in the "Summary of the Invention" portion of the present specification, one of the features of the present invention is to use an organic dye compound having an absorption maximum at a wavelength longer than the wavelength of the writing light. This is totally new idea and very effective to widen the choices of the organic dye compounds suitable for an optical recording medium on which information is recorded with a writing light having relatively short wavelength, in particular in the range of 390 to about 450 nm.

As explained in the specification in the paragraph bridging pages 2 and 3, conventional efforts to explore new dye compounds suitable for an optical recording medium were focused on how to find a new dye compound which has an absorption maximum at a wavelength shorter than the wavelength of a writing light of the optical recording medium. However, as a matter of course, the shorter the wavelength of a writing light becomes (to increase recording density), the more difficult it becomes to find a dye compound having an absorption maximum shorter than the wavelength of the writing light.

This "conventional wisdom" has been turned upside down by the present inventors. The present inventors found that a dye compound, which has been deemed inapplicable to optical recording media due to absorption maximum located in a relatively long wavelength region, could be advantageously useful as a light absorbent of optical recording media (please see page 3 of the present specification). This present invention was made on the basis of the new findings, and is believed to be new and inventive.

Claims 1, 5-9, 13 and 14 have been rejected under §102 as being fully anticipated by Nanba et al JP 60-204396 (Nanba). This rejection is respectfully traversed.

Nanba discloses in Example 3 the use of dye D36, which has an absorption maximum of 880 nm, for an optical recording medium using a writing light with a wavelength of 830 nm. While the absorption maximum of dye D36 is longer than the wavelength of the writing light, the absorption maximum of dye D36 exceeds "850 nm". As defined in the amended claims 1 and 8, an organic dye compound of the present invention has an absorption maximum less than 850 nm. Furthermore, while Example 3 of Nanba uses a writing light with a wavelength of "830 nm", the wavelength of the writing light in the claimed invention should be in the range of 390

to 450nm. In view of these points, it is believed that the claimed invention is not anticipated by Nanba.

Applicants note that the examiner indicates that Nanba discloses on page 28 in the lower left hand column the use of He-Cd laser, which oscillates at the wavelengths of 442 nm and 325 nm. However, it should be noted that Nanba never discloses a dye which is suitable for a writing light having such a short wavelength. Please note that the dye in Nanba should have an absorption maximum in the range of -40 nm to +70 nm to a wavelength of a writing light (please see the Nanba claims).

While Nanba discloses plural dyes, these are suitable for a writing light having a wavelength of 830 nm, 780 nm, or 750 nm as described on page 15 in the lower right column to page 16 upper left column, and should have an absorption maximum at a wavelength over 710 nm. Nanba never suggests the use of such dyes in an optical recording medium using a writing light with a wavelength in the range of 390 to 450 nm because their absorption maximum located at a wavelength much longer than 390 to 450 nm "+70 nm".

Applicants respectfully request withdrawal of the rejection.

Claims 1, 2, 5-9 and 12-14 have been rejected under §103 as being obvious from Nanba. This rejection is respectfully traversed.

It is believed that the subject matter as defined in the amended claims are not obvious over Nanba on the ground as mentioned above. Nanba never suggests the claimed invention.

Applicants note that the rejection indicates that cyanine dye D36 has an absorption maximum at 970 nm (page 29) and that of dye D32 is 870 nm (page 29). However, the examiner's understanding of the disclosure on page 29 of Nanba is not correct. Applicants suppose that the Examiner refers to the table on page 29 in the upper left column. The table reads as follows:

	<u>吸収 A max</u> <u>(nm)</u>	<u>反射 A max</u> <u>(nm)</u>
D 3 1	8 1 5	8 6 0
D 3 3	8 2 0	8 6 0
D 5 2	7 0 0	8 7 0
D 3 6	8 8 0	9 7 0
D 3 2	7 8 0	8 7 0
D 3 7	7 8 0	8 7 0

However, while " 吸収 " means "absorption", " 反射 " means "reflection". Therefore, the table on page 29 of Nanba should be translated as follows:

	Absorption λ max (nm)	Reflection λ max (nm)
D31	815	860
D33	820	860
D52	700	870
D36	880	970
D32	780	870
D37	780	870

The dye D36 has an absorption maximum not at 970 nm, but instead at 880 nm; and that of dye D32 is not 870 nm, but instead 780 nm. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1, 4-8 and 11-14 have been rejected under §102 as being fully anticipated by Umehara et al JP 08-156408 (Umehara). This rejection is respectfully traversed.

Umehara discloses an optical recording medium which records and reads information with a light of 620 to 690 nm as well as a light of 770 to 800 nm, wherein the recording medium comprises an azo-metal complex and a dye which absorbs light in the range of 720 to 850 nm (please see claim 1 of Umehara). It should be noted that Umehara's invention was made to explore an optical recording medium which can record and read

information with both of two lights, one having a wavelength of 770 to 800 nm and another having a wavelength of 620 to 690 nm.

However, Umehara neither discloses nor suggests recording information with a light having a wavelength in the range of 390 to 450 nm. It is clear that using a writing light of wavelength in the range of 390 to 450 nm is out of consideration of Umehara. In view of this, it is believed that the claimed invention is not anticipated by Umehara.

Withdrawal of the rejection is respectfully requested.

Claims 1, 2, 4-9 and 11-14 are rejected under §103 as being obvious from Umehara. This rejection is respectfully traversed.

As mentioned above, Umehara neither discloses nor suggests recording information with a light having a wavelength in the range of 390 to 450 nm.

It is therefore believed that the subject matter as defined in the amended claims are not obvious from Umehara.

Applicants therefore respectfully request withdrawal of the rejection.

Claims 1, 4, 5-8 and 11-14 have been rejected as being fully anticipated under §102 by Aihara et al EP 0676751 (Aihara). this rejection is respectfully traversed.

Aihara discloses an optical recording medium which provides recordable and reproducible information with a laser beam having the wavelength of λ 1, i.e. from 770 to 830 nm, and reproducible with a laser beam having the wavelength of λ 2, i.e. from 630 to 690 nm. In order to provide such an optical recording medium as mentioned above, Aihara specifies a reflectance of the medium to the light beam having a wavelength of λ 1 as 65% or higher, and to the light beam having a wavelength of 2 as 15% or higher (please see claim 1). The aim of the invention of Aihara seems to be the same as that of Umehara. That is to say, Aihara provides an optical recording medium which can record and read information with a light having a wavelength of 770 to 830 nm, and can read information with another light having a wavelength of 620 to 690 nm.

However, Aihara neither discloses nor suggests recording information with a light having a wavelength in the range of 390 to 450 nm. It is clear that using a writing light of wavelength in the range of 390 to 450 nm is out of consideration of Aihara. In view of this, it is believed that the claimed invention is not anticipated by Aihara at all.

Withdrawal of the rejection is in order and is respectfully requested.

Claims 1-3 and 5-7 have been rejected as being anticipated under §102 from Kanno GB 2329751 (Kanno). This rejection is respectfully traversed.

Kanno discloses an optical recording medium which comprises a dye having an absorption maximum at a wavelength in the range of 610 to 620 nm. However, the wavelength of the writing light is 635 nm, which is longer than the wavelength of the absorption maximum of the dye. Kanno does not disclose a recording layer comprising an organic dye compound having an absorption maximum at a wavelength longer than the wavelength of a writing light. Furthermore, Kanno never discloses a writing light having a wavelength in the range of 390 to 450 nm. It is therefore believed that the claimed invention is not at all anticipated by Kanno.

Withdrawal of the rejection is respectfully requested.

Claims 1, 2 and 5-7 have been rejected under §102 as being fully anticipated by Ootaguro USP 5,318,882 (Ootaguro). This rejection is respectfully traversed.

It is believed that Ootaguro discloses neither a recording layer comprising an organic dye compound having an

absorption maximum at a wavelength longer than the wavelength of a writing light, nor a writing light having a wavelength in the range of 390 to 450 nm. it is therefore believed that the claimed invention is not anticipated by Ootaguro at all.

Withdrawal of the rejection is respectfully requested.

Claims 1, 2, 5-9 and 12-14 have been rejected as obvious from Nanba JP '396 in view of Nanba et al USP 4,412,231 (Nanba '231). This rejection is respectfully traversed.

As mentioned above, the claimed invention is not obvious from Nanba JP '396. It is believed that Nanba '231 adds nothing to the disclosure of Nanba JP'396. Nanba '231 just teaches the use of mixed dyes to cover various ranges of wavelength of a writing light. It is considered that dyes having their absorption maximum at a wavelength range relatively low are expected to absorb a writing light having a wavelength which falls in their range, and dyes having their absorption maximum at a wavelength relatively high range are expected to absorb a writing light having a wavelength which falls in their high range. Nanba '231 never teaches the use of an organic dye compound having an absorption maximum at a wavelength **longer than** 390 to 450 nm to absorb a writing light having a wavelength in the range of 390 to 450 nm. It is

therefore believed that the claimed invention is not obvious from Nanba JP '396 in view of Nanba '231.

Withdrawal of the rejection is in order and such is respectfully requested.

Claims 1, 2, 5-9 and 12-14 have been rejected as obvious under §103 from Umehara or Aihara in view of Nanba '231. These rejections are respectfully traversed.

However, as mentioned above, none of Umehara, Aihara and Nanba '231 teaches the subject matter of the claimed invention. Nanba '231 does not make up for the deficiencies of either Umehara or Aihara. It is therefore believed that the claimed invention is not obvious over Umehara or Aihara in view of Nanba '231.

Withdrawal of these rejections is in order and is respectfully requested.

Claims 1, 2, 5-9 and 12-14 have been rejected as being unpatentable over Ootaguro in view of Nanba '231. This rejection is respectfully traversed.

However, as mentioned above, neither Ootaguro nor Nanba '231 teaches the subject matter of the claimed invention, and Nanba '231 does not make up for the deficiencies of Ootaguro. It is therefore believed that the

claimed invention is not obvious over Ootaguro in view of Nanba '231.

Applicants respectfully request withdrawal of the rejection.

Claims 1-3 and 5-7 have been rejected as obvious under §103 from Kanno in view of Ootaguro. This rejection is respectfully traversed.

However, as mentioned above, none of Kanno and Ootaguro teaches the subject matter of the claimed invention. It is therefore believed that the claimed invention is not obvious over Kanno in view of Ootaguro.

Withdrawal of the rejection is respectfully urged.

Claims 1-3, 5-10 and 12-14 have been rejected under §103 as being obvious over Kanno in view of Ootaguro, further in view of Nanba '231. This rejection is respectfully traversed.

However, as mentioned above, none of Kanno, Ootaguro and Nanba '231 teaches the subject matter of the claimed invention. Ootaguro and Nanba '231 together do not make up for what Kanno does not show. It is therefore believed that the claimed invention is not obvious over Kanno in view of Ootaguro further in view of Nanba '231.

Withdrawal of the rejection is respectfully urged.

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Claims 1-3, 5-10 and 12-14 have been rejected under §103 as obvious over Kanno and Nanba '231, and further in view of Hamer, Huditch '584, Saito '089, JP 64-040388, JP 03-009884, JP 10-119434 or JP 03-032884. These rejections are respectfully traversed.

This rejection is unreasonable. How does the PTO believe these reference can be combined to meet applicant's claims? Regardless, none of the additional cited references discloses anything about the subject matter of the claimed invention. These rejections have no reasonable grounds at all.

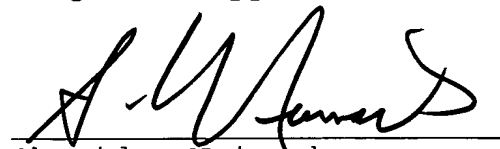
Withdrawal of these rejections is in order and is respectfully requested.

Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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